

Ultrasonic Couplant Comparison Guide

Product	General Purpose Couplants					Extended & Extreme Temperature Series			
	Ultragel II	Sonotrance Gr 30	Echogel Gr 20	Soundsafe	UT-X Powder	Sono 600	Sono 1100	Pyrogel Gr 7	Pyrogel Gr 100
Temperature Range ^a Fahrenheit °F	-10–210	25–175	27–140	0–200	32–120	0–700	700–775	-50–730	-5–805
Temperature Range ^a Celsius °C	-23–99	-4–79	-3–60	-18–93	0–49	-18–371	371–413	-45–388	-45–429
Corrosion Inhibition ^b	90	80	65	75	10	100	N/A	100	100
Relative Viscosity ^c	4	4	6	4	1 to 7	6	N/A	1	10
Actual Viscosity (Brookfield)	~80,000 cps (Helipath Spindle E @ 1.5 rpm)	~65,000 cps (Helipath Spindle E @ 1.5 rpm)	~75,000 cps (LV #4 @ 6 rpm)	~80,000 cps (Helipath Spindle E @ 1.5 rpm)	Variable by altering water amount	~500,000 cps (LV #5 @ 1.5 rpm)	N/A	~620 cps (LV #2 @ 30 rpm)	>4,000,000 cps (LV #5 @ 0.3 rpm)
Long Velocity (x10 ⁵ cm/sec)	1.65	1.52	1.55	1.64	1.51	1.50	N/A	1.20	1.20
Impedance (Mrayls)	1.80	1.55	1.60	1.72	1.53	1.37	N/A	1.35	1.35
Acoustic Performance ^d	85	55	50	80	40	70	N/A	55	55
Typical Max Halogens ^e	<50 ppm	<50 ppm	<50 ppm	<50 ppm	<50 ppm	N/A	N/A	N/A	N/A
Typical Max Sulfur ^e	<50 ppm	<50 ppm	<50 ppm	<50 ppm	<50 ppm	N/A	N/A	N/A	N/A
Water Solubility ^f	90	90	80	90	80	20	0	10	10
ASTM F519	✓		✓						
ASTM F945-PWA 36604	✓								
PWA 36700	✓			✓					
BAC 5968	✓	✓							
BAC 5980	✓								
BAC 5439-PSD 622	✓		✓						

^a For thickness gaging (lower maximum for flaw inspection)

^b Duration of ferrous corrosion inhibition (mild steel & cast iron): 100 = long term protection, 80 = 60 days-steel, 14 days - iron, 60 = 30 days-steel, 7 days - iron, 40 = 7 days - steel, 2 to 8 hours - iron, 20 = 8 hours-steel, 0 to 2 hours - iron, 0 = no inhibition, like plain water.

^c 10 = thick paste, 5 = slow flowing gel, 0 = water

^d For thickness gaging (lower maximum for flaw inspection)

^e Typical values only, request current C of A for actual values

^f 100 = easiest to remove with appropriate solvent, 0 = difficult to remove even with solvent and scrubbing

N/A = Not Available, Information in green indicates best estimates.